Attorney Docket No. O/98414 US

REMARKS

Claims 1-4 and 7-8 are pending in the instant application. Claim 1 and claim 8 are independent. The specification on pages 8 and 14 provide support for new claim 8. Applicants have not raised any issues of new matter.

Applicants would like to then the Examiner and her Supervisor for conducting an Interview in regards to this application. Applicants feel that the Interview was very informative and productive.

Applicants have canceled one claim and added a claim. The claim amendments are a direct result of the conversation from the Interview. The claim amendment should not cause the examiner to further search; thus, Applicants respectfully request entry of the above amendment and consideration of the following remarks.

Issue Under 35 U.S.C. §103(a)

Claims 1-5 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Lobaccaro et al. (J. Med. Chem., 1997, 40, 2217-2227). Applicants assert that patentable distinctions exist between the present invention and Lobaccaro et al.

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Distinctions Between the Present Invention and Lobaccaro et al.

Applicants have amended the claims to recite a pharmaceutical composition having ERα agonist activity and having ERβ antagonist activity, comprising identified compounds. Lobaccaro et al fails to disclose such activity profile. Therefore, a skilled artisan would not be motivated to make pharmaceutical composition with ERβ antagonist activity with a compound with carbon chain of 5 to 9 carbon atoms at position 11.

As discussed during the Interview, the identified compounds show unexpected results; therefore, Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection.

Issue Under 35 U.S.C. §103(a)

Claims 1-5 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Napolitano et al. (J. Med. Chem., 1995, 38, 2774-2779). Applicants assert that patentable distinctions exist between the present invention and Napolitano et al.

Distinctions Between the Present Invention and Napolitano et al.

Napolitano et al. discloses that the 11β position of the steroid is substituted or unsubstituted short chain alkyl groups (less than five carbon atoms). Applicants have amended the claims to emphasize the unexpected results discussed during the Interview. Applicants believe these unexpected results rebut any argument of obviousness because a skilled artisan would not have had a reasonable expectation of success of achieving the selectivity of the present invention. See below for a more detailed explanation of the unexpected results.

Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection.

Unexpected Results

As discussed during the Interview, in Table A, page 14 of the present specification, Applicants recite that compounds 3, 5, 6, 8 and 11,. which are the present invention, are agonist at ER-α and antagonist at ER-β. Compounds 1, 2, 4, 7 and 9-10 are agonist at both ER-α and ER-β. Compounds 1, 2, 4, 7 and 9-10 represent the closest prior art, which is Napolitano et al. Compounds 4 and 5 only differ by one carbon in the side chain at position 11, yet 4 is an agonist ER-β and 5 is an antagonist at

ER-β. The same can be said for the difference in compounds 10 and 11.

Applicants have claimed a series of a pharmaceutical composition that are agonist at ER-α and antagonist at ER-β. The cited prior art provides no motivation to make such compositions because a skilled artisan would not have had a reasonable expectation of success of making a series of pharmaceutical compositions that are agonist at ER-α and antagonist at ER-β from reading the cited prior art.

Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection.

Conclusion

Applicants submit that every issue raised by the outstanding Office Action has been addressed and rebutted. Therefore, the present claims define patentable subject matter and are in condition for allowance.

Attached hereto is a version with markings to show changes made by this amendment.

Should the Examiner believe that an Interview would be helpful in advancing the prosecution of this application, he is invited to telephone Applicants' Attorney at the number below.

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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2334 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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MWM

Enclosure: Version with Markings to Show Changes Made

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Version with Markings to Show Changes Made

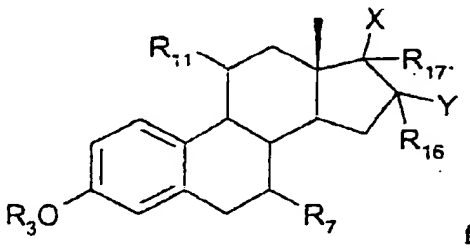
In the Claims

Claim 5 has been canceled without prejudice to the subject matter contained therein.

Please amend the claims as follows:

1. (Twice Amended) A pharmaceutical composition having ERα agonist activity and having ERβ antagonist activity, comprising:

a steroid compound satisfying the following structural formula:



formula I

wherein:

one of X and Y is OH, the other being H;

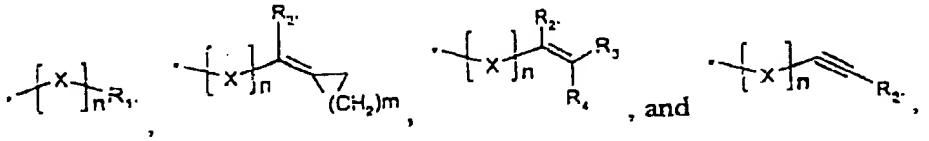
R_3 is H or COR'_3, with R'_3 being alkyl or aryl;

R_7, R_{16}, and R_{17} each independently are H, alkyl, cycloalkyl, alkenyl, alkynyl or aryl; R_{11} is a hydrocarbon group, which may be linear or branched, comprising one single linear chain having

a length of from 5 to 9 carbon atoms as the longest chain on carbon atom no. 11 of the steroid skeleton, wherein said chain may be saturated or unsaturated, and

a pharmaceutical acceptable auxiliary.

2. (Twice Amended) [A] The pharmaceutical composition [steroid compound] according to claim 1, wherein R_{11} is selected from the following group of side-chain structures:



wherein X is CH_2, CH-alkyl or $C(alkyl)_2$, R_1 is H, [aklkyl] alkyl, C_3-C_7 cycloalkyl or together with X forms a C_3-C_7 ring system, R_2 is H, alkyl or C_3-C_7 cycloalkyl, R_3 and R_4 each independently are H, alkyl or C_3-C_7 cycloalkyl, unsubstituted or substituted with halogen or CN, n is an integer of from 0-9, m is an integer of from 1-5.

3. (Twice Amended) [A] The pharmaceutical composition [steroid compound] according to claim 1, wherein the longest chain in R_{11} comprises 5-7 carbon atoms.

4. (Twice Amended) [A] The pharmaceutical composition [steroid compound] according to claim 3, wherein the longest chain in R_{11} comprises 5 carbon atoms.

7. (Amended) A method for treating estrogen deficiency disorders, comprising:

administering to a patient afflicted with an estrogen deficiency disorder an effective amount of the [steroid compound] pharmaceutical composition of claim 1.

Claim 8 has been added.